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FACT SHEET
HANFORD-WIDE PERMIT FACT SHEET

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FACT SHEET

HANFORD-WIDE PERMIT FACT SHEET

The Washington State Department of Ecology is announcing its draft permit renewal for dangerous waste management at the U.S. Department of Energy (USDOE) Hanford Facility. Ecology will make a final decision on this permit after receiving and evaluating public comments.

Hanford waste includes:

- Radioactive waste.
- Dangerous waste (which contains a chemically hazardous component).
- Mixed waste (which has both radioactive and chemically hazardous components).

Ecology has authority to regulate dangerous waste and the dangerous waste components of mixed waste. The draft permit has requirements for the treatment, storage, and disposal of dangerous and mixed waste at Hanford.

Ecology does not regulate waste that is solely radioactive. USDOE has exclusive authority to regulate radioactive materials and radioactive waste at Hanford.

Ecology issued the initial permit for the Hanford Facility in 1994. The facility has been operating under that initial permit since that date. Since 1994 the permit has been modified several times to incorporate changes or updates and to add and delete several units.

This fact sheet provides:

- Hanford overview and history.
- Information on public participation in the permit process.
- Ecology's process for reaching a final decision on the permit.
- Outline of the permit structure.
- Changes from the 1994 Permit.
- A list of variances from the regulations.
- State Environmental Policy Act (SEPA) summary.

In addition to this fact sheet, which discusses the general permitting process and provides information for the entire Hanford Site, each individual unit included in the draft permit has a unit-specific fact sheet.

FACILITY OVERVIEW AND HISTORY

Hanford background

The United States government established the Hanford Site during World War II to produce plutonium for nuclear weapons. It was part of the original Manhattan Project.

The Hanford Site, located in south-central Washington State, covers 586 square miles. It is divided into a number of operational areas. These include:

- The 100 Areas, situated along the shore of the Columbia River in the northern portion of the Site, were the location of nine nuclear reactors. The irradiated fuel produced in the 100 Areas' reactors was transported by rail to the 200 Areas.
- The 200 East and 200 West Areas are located on a plateau south of the Columbia River. These areas housed facilities called separations plants that separated plutonium from dissolved irradiated fuel. Wastes were neutralized and stored in large underground tanks. In addition, various wastes were discharged to cribs and surface ponds for evaporation and percolation into the ground.

- The 300 Area, located just north of Richland, was the location of nuclear fuel fabrication and research and development activities. The fabricated fuel slugs were shipped by rail from the 300 Area to the nuclear reactors in the 100 Areas.
- The 400 Area is located northwest of the 300 Area. It is the location of the Fast Flux Test Facility, a 400-megawatt thermal, liquid-metal (sodium) cooled nuclear research and test reactor owned by the USDOE. The facility, which operated for about ten years, has been shut down since 1993 and is currently being deactivated.
- The 600 Area includes the Hanford Reach National Monument and all the land not included in the 100, 200, 300, and 400 Areas.

Plutonium production at Hanford continued through the Cold War and ended in 1989. The work of making plutonium at Hanford released millions of gallons of liquid waste with radionuclides and hazardous chemicals to the environment.

In addition to contaminated soils and buildings, there are 177 underground tanks storing 56-million gallons of highly radioactive wastes at Hanford. It is estimated that about one-million gallons of liquid waste has leaked from these underground storage tanks.

Starting in the early 1990s, the federal government required federal facilities, such as Hanford, to comply with environmental laws of the states and the nation.

Hanford has one dangerous waste permit.

All of the dangerous and mixed waste management areas throughout the Hanford site make up one dangerous waste facility. The dangerous waste management units that treat, store, or dispose of dangerous or mixed waste are organized in the permit in 37 active Treatment, Storage, or Disposal (TSD) units and 2 Corrective Action units.

What's not in the permit

The state's dangerous waste regulations do not address:

- **Radioactive waste at Hanford.** USDOE has exclusive authority to regulate radioactive materials and radioactive waste at Hanford, under the Atomic Energy Act of 1954.
- **Cleanup under CERCLA.** The U.S. Environmental Protection Agency (EPA) regulates the cleanup of some parts of Hanford with radioactive and chemical wastes under the Comprehensive Environmental Restoration, Compensation and Liability Act (CERCLA).
- **Disposal of commercial low-level wastes at US Ecology.** US Ecology is a commercial company with a site on Hanford's central plateau.
- **Toxic air emissions.** A separate Hanford Air Operating Permit regulates toxic air emissions. This air permit covers mainly diesel engines and stack emissions.

Permitting background

Federal law allows federal facilities to operate under "interim status" standards if they existed before becoming subject to the dangerous waste regulations. This was the case for Hanford, which started operating in 1944. Interim status allows a facility to operate while completing the permitting process. Hanford operated under interim status since the 1980s until Ecology and EPA issued the first permit in 1994.

The 1994 permit was in two parts, one from Ecology and one from the EPA, because the state had not received full authority for state regulations to operate in place of the federal regulations.

In 2005, Washington received authority from EPA for the remaining components needed to issue a dangerous waste permit on its own. Under 40 CFR 271.19, EPA retains oversight.

Dangerous waste regulations require Ecology to reissue a permit after a term of up to 10 years. Ecology issued the first permit for a 10-year term in 1994. USDOE submitted an application for a permit renewal on March 30, 2004. While Ecology reviewed the application and prepared the draft permit, Hanford continued to operate under the existing permit.

PERMITTEES

The permit is to be issued to Hanford's owner and operators. USDOE, as the owner of the facility, is a Permittee. (USDOE is a single Permittee, although we list below both of its two offices in Richland.) Hanford contractors are also Permittees because, although they do not have control of the funding, they have a large degree of autonomy and authority to carry out work at Hanford.

The Permittees for this permit are:

United States Department of Energy
Richland Operations Office
(Owner/Operator)
P.O. Box 550
Richland, Washington 99352
Telephone: 509-376-7395

United States Department of Energy
Office of River Protection
(Owner/Operator)
P.O. Box 450
Richland, Washington 99352
Telephone: 509-376-6677

Mission Support Alliance, LLC
(Operator)
P.O. Box 650
Richland, Washington 99352
Telephone: 509-376-1310

Bechtel National, Inc.
(Operator)
2435 Stevens Center Place
Richland, Washington 99352
Telephone: 509-371-2000

Washington Closure Hanford, LLC
(Operator)
2620 Fermi Avenue
Richland, Washington 99354
Telephone: 509-372-9951

CH2M Hill Plateau Remediation Company
(Operator)
P.O. Box 1600
Richland, Washington 99352
Telephone: 509-376-0556

Pacific Northwest National Laboratory
(Operator)
P.O. Box 999
Richland, Washington 99352
Telephone: 509-375-6600

Washington River Protection Solutions, LLC
(Operator)
P.O. Box 850
Richland, Washington 99352
Telephone: 509-372-9138

PROCEDURES FOR REACHING FINAL DECISIONS

Public Comment

The public may review and comment on this draft permit. Ecology will consider all public comments before deciding whether, and with what conditions, it will issue a final permit. Washington Administrative Code [\(WAC\) 173-303-840](#)(3) through (9) describes the public review process.

Portions of the permit contain confidential business or official use only information. This information is not being provided for public review.

The public comment period on the draft permit and SEPA determination runs from May 1, 2012, through September 30, 2012. You may comment via email, postal mail, or fax. In addition, you may comment orally at the public meetings (see below).

The Single Shell Tank (SST) unit-specific information will be incorporated into the draft permit after May 1, 2012. The comment period on the SST unit will also end September 30, 2012.

To be accepted, comments must be postmarked or hand-delivered by 5:00 p.m. September 30, 2012.

Submit comments on permit to:

Nuclear Waste Program
Department of Ecology
3100 Port of Benton Blvd
Richland, WA 99354
Email: Hanford@ecy.wa.gov
Fax 509-372-7971

During the public comment period, you may review the information Ecology used to make its tentative decision to issue the permit between 8:30 a.m. and 4:30 p.m. at the address above. The information is also at the Hanford information repositories listed below:

TPA Administrative Record
2440 Stevens, Room 1101
Richland, Washington 99354
509-376-2530

Portland State University
Branford Price Millar Library
1875 SW Park Avenue
Portland, Oregon 97202
Attn: Claudia Weston
503-725-4542

Gonzaga University
Foley Center
East 502 Boone
Spokane, Washington 99258
Attn: John Spencer
509-313-6110

U.S. Department of Energy Public Reading Room
Washington State University, Tri-Cities
Consolidated Information Center, Room 101-L
2770 University Drive
Richland, Washington 99354
Attn: Janice Parthree
509-372-7443

University of Washington
Government Suzzallo Library
Publications Division
Seattle, Washington 98195-2900
Attn: Hilary Reinert
206-543-1937

For more information or a copy of Ecology's draft permit and fact sheet:

- Contact Andrea L. Prignano at 509-372-7911
- Visit the Ecology website at <http://www.ecy.wa.gov/programs/nwp/permitting/hdwp/>

Public Hearings

Ecology will hold public hearings on the draft permit at the following locations:

| Date | City | Location |
|--------------|---------------------|---|
| May 15, 2012 | Seattle, Washington | University Height Center 5031 University Way NE. |
| May 16, 2012 | Portland, Oregon | Red Lion on the River (Jantzen Beach) 909 N Hayden Island Drive. |
| June 5, 2012 | Spokane, Washington | Spokane City Council Chambers and Gallery West 808 Spokane Falls Blvd. |

June 6, 2012 Richland, Washington Richland Public Library
955 Northgate Drive

The hearings will begin with an open house at 6:30 p.m. At 7:00 p.m. Ecology will give a brief explanation of the permit and decision process, and answer questions. The formal hearing will follow.

How to Participate

You may review and comment on the draft permit. You must deliver (mail, email or fax) your comments by September 30, 2012, for us to consider them. (Mailed comments must be postmarked by September 30, 2012.)

The most effective comments are those where you:

- Provide specific information describing which condition(s) you believe inappropriate.
- Provide factual and regulatory support for the comment.
- Suggest changes to fix the problem.
- Include supporting material, unless Ecology already has the material. For example:
 - If the comment references a regulation on managing dangerous waste, Ecology already has it.
 - If the comment references a report or letter that is not part of the application or the agency files or is not a commonly available reference, then Ecology likely does not have it. In such cases, the person commenting should provide a copy of the reference.

[WAC 173-303-840](#)(6) provides details on raising issues and providing information during the public comment period.

DECISION-MAKING PROCESS

Public comments and testimony

Ecology will consider and respond to written comments submitted by the public. We will also consider and respond to public testimony from the public hearings.

Final decisions

After considering public comments and testimony, Ecology will make a final permit decision or a new tentative decision. In addition, Ecology will either allow the SEPA determination of nonsignificance to stand, amend it, or withdraw it based on public input.

When Ecology issues a final permit, it is valid for 10 years from its effective date. During those 10 years, Ecology or the Permittees will need to change the permit to address changes at the Hanford Site. For example, the Waste Treatment and Immobilization Plant permit will need a number of changes as the Permittees continue designing and building the plant. Additional units might be added to the permit, or current units might be closed and removed from permit. So the permit will require modification over time. [WAC 173-303-830](#) has procedures for modifying a permit. Significant changes to the permit are subject to public review.

Effective date of decisions

Normally, a permit is effective 30 days after Ecology gives notice of its final decision. If Ecology makes a new tentative decision on this permit, there will be a comment period on that decision.

Appealing the final permit decision

Ecology will make a final decision after considering and responding to comments on the draft permit. The final decision or any individual permit condition may be challenged by appealing to the Pollution Control Hearings Board. Appeal procedures are in [WAC 173-303-845](#) and Chapter 43.21B Revised Code of Washington (RCW).

ECOLOGY'S AUTHORITIES AND RESPONSIBILITIES

Ecology regulates dangerous wastes in Washington. Ecology's authority comes from:

- Hazardous Waste Management Act, Chapter 70.105 revised Code of Washington (RCW).
- Dangerous Waste Rules in [WAC 173-303](#).

[WAC 173-303-800](#) specifies that facilities such as Hanford, which store, treat, and dispose of dangerous wastes, must obtain a permit. Ecology's program is authorized for all aspects of the federal hazardous waste program that apply to the Hanford Facility.

The EPA also has regulations for facilities that manage hazardous waste. Hazardous waste is regulated nationwide by:

- The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), and the Hazardous and Solid Waste Amendments of 1984 (HSWA).
- Title 40 of the Code of Federal Regulations (CFR).

EPA authorizes Ecology to implement these federal regulations in Washington.

In general, new or amended requirements in the Hazardous and Solid Waste Amendments of 1984 and related regulations will automatically apply to Hanford dangerous waste management activities. The exception is for new requirements that are less stringent than those in effect when Ecology issues the final permit.

THE DRAFT PERMIT STRUCTURE

In many ways the draft permit is similar to the 1994 permit, but there are a number of important changes. The Draft Permit includes all of the remaining TSD units.

The Draft Dangerous Waste Permit is in six parts.

- Part I conditions include all that are required to appear in all dangerous waste permits. Along with these general conditions, related conditions appear in Part I.
- Part II conditions are specific to Hanford and apply to all the treatment, storage, and disposal (TSD) units at the Site and the areas in between the TSD units.
- Parts III, IV, V, and VI provide specific requirements and conditions for individual units.

Part III, the Operating Unit Groups (OUG), is for TSD units currently operating (storing, treating, or disposing of dangerous waste). Part III includes:

- Liquid Effluent Retention Basin/200 Area Effluent Treatment Facility (OUG-3)
- 242-A Evaporator (OUG-4)
- 325 Hazardous Waste Treatment Units (OUG-5)
- Central Waste Complex(OUG-6)
- Waste Receiving and Processing Facility (OUG-7)
- 222-S Laboratory Dangerous & Mixed Waste TSD Unit (OUG-8)
- T Plant Complex (OUG-9)
- Waste Treatment and Immobilization Plant (OUG-10)
- Integrated Disposal Facility (OUG-11)
- Double Shell Tank System/204-A Waste Unloading Station (OUG-12)
- Waste Encapsulation & Storage Facility (OUG-14)

- 331-C Storage Unit (OUG-15)
- 400 Area Waste Management Unit (OUG-16)
- Low Level Burial Grounds Trenches 31 & 34 (OUG-17)
- Low-Level Burial Grounds Trench 94 (OUG-18)

Part IV, the Corrective Action Areas (CA), are areas that are contaminated from historical practices. Part IV includes:

- Corrective Action, Waste Management Units (CA-1)
- Corrective Action, Groundwater Operable Units (CA-2)

Part V, the Closure Unit Groups (CUG), is for TSD units that are no longer operating and are in the process of being cleaned and closed. Part V includes:

- 1301-N Liquid Waste Disposal Facility (CUG-2)
- Single Shell Tank System (CUG-4)
- 600 Area Purgewater Storage and Treatment Facility (CUG-8)
- 207-A South Retention Basin (CUG-9)
- 216-A-29 Ditch (CUG-11)
- 216-A-36B Crib (CUG-12)
- 216-A-37-1 Crib (CUG-13)
- 216-S10 Pond & Ditch (CUG-14)
- 241-CX Tank System (CUG-15)
- 1706-KE Waste Treatment System (CUG-16)
- Hexone Storage & Treatment Facility (CUG-19)
- Nonradioactive Dangerous Waste Landfill (CUG-20)
- 216-B-63 Trench (CUG-21)
- 216-B-3 Main Pond (CUG-22)
- Grout Treatment Facility (CUG-23)
- B Plant Complex (CUG-24)
- PUREX Facility & PUREX Storage Tunnels (CUG-25)
- Low-Level Burial Grounds Closing Units “Green Islands” (CUG-26)

Part VI, the Post-Closure Units (PCU), is for TSD units that have been closed, but some contamination remains at the site. These TSD units need continued monitoring. Part VI includes:

- 300 Area Process Trenches (PCU-1)
- 183-H Solar Evaporation Basins (PCU-2)
- 1325-N Liquid Waste Disposal Facility (PCU-3)
- 1324-N Surface Impoundment and 1324-NA Percolation Pond (PCU-4)

CHANGES FROM PREVIOUS VERSIONS OF THE PERMIT

The 1994 permit had conditions for financial requirements as called for in [WAC 173-303-620](#). Dangerous waste rules do not require us to require financial assurance and liability protection because Hanford is a federal facility.

USDOE meets the reporting requirements in [WAC 173-303-620](#)(3) & (5) for cost estimate submittals from the contractors when it submits project cost and schedule information as required in the Hanford Federal Facility Agreement and Consent Order ([Tri-Party Agreement](#) or TPA) Article XLVIII paragraphs 148 and 149. Therefore, the requirements for financial assurance and liability protection have been removed.

The Hanford site is currently subject to Revision 8C of the Hanford facility permit. Revision 8C reflects changes made to the original permit through the permit modification process as allowed in [WAC 173-303-830](#) and [WAC 173-303-840](#). In addition, during this revision and comment period, Revision 8C remains in effect, and additional modifications may be requested and approved.

Any modifications requiring public review during the Draft Permit's public review period, will receive separate public review. After the comment period on this Draft Permit closes, all changes to Revision 8C made through these modifications will be considered for incorporation into Revision 9 before it is issued.

PERMIT FORMAT

The format for this permit is largely based on the 1994 permit. Ecology made some changes for clarity, based on review of past permit changes. Some previous sections have been removed because they were out of date or they duplicated information provided elsewhere in the revised permit. These sections of the permit may be listed as "Reserved." "Reserved" is also used to indicate sections that are not needed for a specific unit or as a placeholder for information that the Permittees are required to produce at a later date.

Attachments to the Permit

Several documents are attached to the permit. These documents support or are related to conditions in the permit.

- **Attachment 1, [Tri-Party Agreement](#):** Many permit conditions reflect or refer to TPA schedules and commitments. If the schedule changes in the TPA, the change goes into the permit without a formal process.
- **Attachment 2, Hanford Facility Permit Legal Description & Operating Boundary:** The legal description defines the Hanford site boundary, according to the definition of "facility" in [WAC 173-303-040](#). This is the geographic scope of the dangerous waste permit.
- **Attachment 3, Security:** The security attachment defines security requirements that apply to the entire Hanford Facility. Security measures include patrol, fences, alarms, badge check stations, and photo surveillance.
- **Attachment 4, Hanford Emergency Management Plan:** The plan defines emergency preparedness and emergency response procedures that apply to the entire Hanford Facility. It covers requirements besides the dangerous waste regulations. Additional requirements might apply to specific individual unit groups.
- **Attachment 5, Hanford Facility Personnel Training Plan:** Like Attachment 4, this document covers training that applies to the entire Hanford Site. Additional requirements might apply to specific individual unit groups.
- **Attachment 6, Reports and Records:** The Reports and Records table establishes how the Permittees will submit documents, reports, data, etc.
- **Attachment 7, Reserved.**
- **Attachment 8, Permitted Unit History:** This table provides the proper name of each unit and the status of each unit or unit group.
- **Attachment 9, Applicability Matrix:** Reserved.

Part I Conditions

Part I conditions are general permit conditions that apply to all permitted TSD facilities. They authorize the Permittees to treat, store, and dispose of dangerous waste in accordance with the conditions in the permit and provisions of [WAC 173-303](#). They also require the Permittees to comply with other requirements in RCRA and other laws that protect human health and the environment. Compliance with each individual permit condition is independently enforceable.

The Part I conditions include:

- Coordination with the TPA.
- Allowing regulators access to inspect facilities and records.
- Requirements for modifying the permit if operations or facilities change.
- Transferring the permit to new owners or operators.
- Submitting a permit application prior to the expiration date of the current permit.

Part II Conditions

Part II conditions apply to the Hanford Facility as a whole and focus on how the facility operates. They include specifics regarding:

- Contingency planning.
- Training.
- Waste analysis.
- Spill management.
- Groundwater monitoring.
- Recordkeeping.
- Security.
- Information related to dangerous and mixed waste transportation.
- Land disposal restrictions.
- Waste minimization.
- Inspections.

In addition, it is noted that in lieu the financial assurance provision of [WAC 173-303-620](#), USDOE must comply with the [TPA](#) requirement to produce an annual scope, schedule, and cost report.

Condition II.Y requires the Permittees to conduct corrective action for releases of dangerous waste and dangerous waste constituents from areas of concern at the Hanford Facility. This includes releases that have migrated beyond the Hanford boundary. The Permittees are required to comply with requirements and schedules for cleanup of past practice units approved under the TPA. However, the Permittees' right to challenge Ecology's authority to impose corrective action with respect to radionuclides, CERCLA Past Practice Units, and selected solid waste management units is reserved until such time as Ecology chooses to impose corrective action in accordance with the permit modification procedures of [WAC 173-303-830](#).

PERMIT VARIANCES

There are a few overarching variances to the dangerous waste regulations. In some cases facilities can't fully comply with all the requirements of [WAC 173-303](#) at this time. In most cases the Draft Permit has conditions for the Permittees to comply by a specified time in the near future. In a few cases, facilities will never be able to fully comply. Some of these non-compliances include:

- Storage and treatment of mixed waste in Hanford's non-compliant single shell tanks. These tanks cannot meet the state's requirement because they lack secondary containment. There is currently no practical alternative but to continue to use the single shell tanks while the Permittees build and start up a treatment plant for that waste.
- Time allowed for closure. Dangerous waste rules in [WAC 173-303-610](#) (4)(b) require the Permittees to complete closure within 180 days of receiving final waste. The magnitude of the site and the complexities of handling mixed wastes require additional time to complete some closure activities. The TPA has schedules and commitments for planning and carrying out closures. The permit incorporates those dates.

In other cases, due to the complexity and risk associated with some Hanford units, Ecology is requiring the Permittees to comply with requirements over and above those in the dangerous waste regulations. These include:

- **Risk-Budget Tool.** The Permittees must create and maintain a modeling - risk budget tool, which models the future impacts of the planned waste forms to be disposed in on-site land based units (e.g. Trenches 31 & 34), and include input from analyses performed and the impact to the underlying vadose zone and groundwater.
- **Off-Site Waste.** The permit provides for management of only dangerous or mixed waste that is generated from processes at the Hanford site and waste that is specifically identified in Section II, paragraph 8 of the Settlement Agreement re: Washington versus Bodman, Civil No. 2:30-cv-05018-AAM, January 6, 2006. The permit does not allow management of any other wastes at TSD units except as authorized via a permit modification decision.

UNIT-SPECIFIC PERMIT INFORMATION

Because of the size and complexity of the Hanford facility, most of the permit consists of unit-specific information. Individual Fact Sheets are provided for each unit. The fact sheets summarize conditions and variances at each unit.

CHANGES TO RCRA RULES UNDER THE HAZARDOUS AND SOLID WASTE AMENDMENTS

In general, new or amended requirements in the Hazardous and Solid Waste Amendments of 1984 and related regulations will automatically apply to Hanford dangerous waste management activities. The exception is for new requirements that are less stringent than those in effect when Ecology issues the final permit.

TENTATIVE DECISION

In its permit application, Hanford has demonstrated it is capable of safely operating its dangerous waste management facility under the conditions required for a final permit. Therefore, Ecology has made a tentative decision to re-issue a final status permit to the facility.

STATE ENVIRONMENTAL POLICY ACT (SEPA)

Issuing a permit is an "action" subject to the requirements of the State Environmental Policy Act (SEPA)¹. Ecology and the US Environmental Protection Agency issued the first Hanford Facility Dangerous Waste permit in 1994. Ecology signed a SEPA Determination of Non-Significance (DNS) for that action on January 13, 1992.

The 1994 permit did not include requirements for all of Hanford individual dangerous waste management units. Modifications have been made to the permit since 1994. Those modifications added some, but not all, units not in the 1994 permit. Ecology prepared individual SEPA determinations for each permit modification.

1 This Draft Permit includes every unit not clean-closed between 1994 and now. Ecology is using a single
2 SEPA determination for its current action. Information about that SEPA determination is available
3 through the Ecology SEPA Register at <http://www.ecy.wa.gov/programs/sea/sepa/register.html>. For
4 questions about the SEPA Register, e-mail sepahelp@ecy.wa.gov or call (360) 407-6922.

5 ¹(Revised Code of Washington [RCW] 43.21C.030(2)(c), and Washington Administrative Code [WAC]
6 197-11-7040)

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